

**RECEIVED
CENTRAL FAX CENTER****JUN 22 2007**

Appl. No. 10/791,569

Reply to Office Action mailed April 19, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1. (withdrawn) A metallic material for an electronic component, said metallic material consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0% by weight, a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 2. (currently amended) A ~~metallic~~ sputtering target material ~~for an electronic component~~ [[,]] ~~said metallic material~~ consisting essentially of a binary alloy including ~~mainly~~ Cu and Mo in an amount of 0.1 to 3.0% by weight.

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

Claim 3. (withdrawn) A metallic material for electronic components, said metallic material consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 4. (withdrawn) The metallic material for an electronic component according to one of claims 1 to 3, said metallic material having electrical resistance lower than $10 \mu \Omega \text{ cm}$.

Claim 5. (withdrawn) A metallic material for an electronic component, said metallic material consisting of a ternary alloy including mainly of Cu, Mo in an amount of 0.1 to 3.0% by weight and one element selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in an amount of 0.1 to 3.0% by weight.

Claim 6. (withdrawn) The metallic material for an electronic component according to claim 5, said metallic material having

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

electrical resistance higher than $1.5 \mu \Omega \text{ cm}$ and lower than $7.0 \mu \Omega \text{ cm}$.

Claim 7. (withdrawn) The metallic material for an electronic component according to one of claim 1, claim 2, claim 3 and claim 5, said metallic material being used as a material for any one of a wiring pattern, an electrode, a contact and a target for a sputtering process.

Claim 8. (withdrawn) An electronic component having a wiring pattern, an electrode or a contact using a metallic material, said metallic material consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 9. (currently amended) An electronic component having a wiring pattern, an electrode or a contact using a metallic material, said metallic material formed by a sputtering process using a sputtering target material consisting essentially of a

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

binary alloy including ~~mainly~~ Cu and Mo in an amount of 0.1 to 3.0% by weight.

Claim 10. (withdrawn) An electronic component having a wiring pattern, an electrode or a contact using a metallic material, said metallic material consisting of an alloy including ~~mainly~~ Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 11. (withdrawn) The electronic component according to one of claims 8 to 10, said electrical component having a wiring pattern, an electrode or a contact which are formed by an etching process using a solution including phosphoric acid and nitric acid.

Claim 12. (withdrawn) The electronic component according to one of claims 8 to 10, said electronic component having a wiring

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

pattern, an electrode or a contact which are formed by an etching process under a gas atmosphere including chlorine.

Claim 13. (withdrawn) The electronic component according to one of claims 8 to 10, said electronic component having a region other than a wiring pattern, an electrode and a contact, which are formed by an etching process under a gas atmosphere including fluorine.

Claim 14. (withdrawn) The electronic component according to one of claims 8 to 10, said electronic component having a wiring pattern, an electrode or a contact which are formed by a heat treatment in the range of the temperatures from 100°C to 750°C.

Claim 15. (withdrawn) The electronic component according to one of claims 8 to 10, said electronic components having a wiring pattern, an electrode or a contact which are formed on a backing layer made of one of Ti, W, Ta, Mo, indium tin oxide, titanium nitride, oxidation silicon and silicon nitride.

Claim 16. (withdrawn) The electronic component according to one of claims 8 to 10, said electronic component having a wiring

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

pattern, an electrode or a contact which are directly formed on a substrate made of one of glass or plastic resin.

Claim 17. (withdrawn) An electronic device having a wiring pattern, an electrode or a contact using a metallic material, said metallic material consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 18. (currently amended) An electronic device having a wiring pattern, an electrode or a contact using a metallic material, said metallic material formed by a sputtering process using a sputtering target material consisting essentially of a binary alloy including mainly Cu and Mo in an amount of 0.1 to 3.0 % by weight.

Claim 19. (withdrawn) An electronic device having a wiring pattern, an electrode or a contact using a metallic material, said metallic material consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 20. (withdrawn) The electronic device according to one of claims 17 to 19, said electronic device having a wiring pattern, an electrode or a contact which are formed by an etching process using a solution including phosphoric acid and nitric acid.

Claim 21. (withdrawn) The electronic device according to one of claims 17 to 19, said electronic device having a wiring pattern, an electrode or a contact which are formed by an etching process under a gas atmosphere including chlorine.

Claim 22. (withdrawn) The electronic device according to one of claims 17 to 19, said electronic device having a region other than a wiring pattern, an electrode and a contact, which are formed by an etching process under a gas atmosphere including fluorine.

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

Claim 23. (withdrawn) The electronic device according to one of claims 17 to 19, said electronic device having a wiring pattern, an electrode or a contact which are formed by a heat treatment in the range of the temperatures from 100°C to 750°.

Claim 24. (withdrawn) The electronic device according to one of claims 17 to 19, said electronic device having a wiring pattern, an electrode or a contact which are formed on a backing layer made of one of Ti, W, Ta, Mo, indium tin oxide, titanium nitride, oxidation silicon and silicon nitride.

Claim 25. (withdrawn) The electronic device according to one of claims 17 to 19, said electronic device having a wiring pattern, an electrode or a contact which are directly formed on a substrate made of one of glass or plastic resin.

Claim 26. (withdrawn) A working method of a metallic material, in which a metallic film consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is etched by using a solution including phosphoric acid and nitric acid to form a wiring pattern, an electrode or a contact.

Claim 27. (withdrawn) A working method of a metallic material, in which a metallic film consisting of a binary alloy including mainly Cu and Mo in an amount of 0.1 to 3.0 % by weight is etched by using a solution including phosphoric acid and nitric acid to form a wiring pattern, an electrode or a contact.

Claim 28. (withdrawn) A working method of a metallic material, in which a metallic film consisting of an alloy including mainly Cu having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is etched by using a solution including phosphoric acid and nitric acid to form a wiring pattern, an electrode or a contact.

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

Claim 29. (withdrawn) A working method of a metallic material, in which a metallic film consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is etched under a gas atmosphere including hydrochloric acid to form a wiring pattern, an electrode or a contact.

Claim 30. (withdrawn) A working method of a metallic material, in which a metallic film consisting of a binary alloy including mainly of Cu and Mo in an amount of 0.1 to 3.0 % by weight is etched under a gas atmosphere including hydrochloric acid to form a wiring pattern, an electrode or a contact.

Claim 31. (withdrawn) A working method of a metallic material, in which a metallic film consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

total amount of 0.1 to 3.0% by weight and Cu as a remaining content is etched under a gas atmosphere including hydrochloric acid to form a wiring pattern, an electrode or a contact.

Claim 32. (withdrawn) A manufacturing method of electronic component, in which a metallic film is consisted of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content, and a film other than said metallic film is worked by an etching process under a gas atmosphere including fluorine.

Claim 33. (withdrawn) A manufacturing method of an electronic component, in which a metallic film is consisted of a binary alloy including mainly Cu and Mo in an amount of 0.1 to 3.0 % by weight, and a film other than said metallic film is worked by an etching process under a gas atmosphere including fluorine.

Claim 34. (withdrawn) A manufacturing method of an electronic component, in which a metallic film is consisted of an alloy

Appl. No. 10/791,569

Reply to Office Action mailed April 19, 2007

including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content, and a film other than said metallic film is worked by an etching process under a gas atmosphere including fluorine.

Claim 35. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is subjected to a heat treatment in the range of temperatures from 100°C to 750°C to form a wiring pattern, an electrode or a contact.

Claim 36. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of a binary alloy including mainly Cu and Mo

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

in an amount of 0.1 to 3.0 % by weight is subjected to a heat treatment in a range of temperatures from 100°C to 750°C to form a wiring pattern, an electrode or a contact.

Claim 37. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is subjected to a heat treatment in a range of temperatures from 100°C to 750°C to form a wiring pattern, an electrode or a contact.

Claim 38. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by

Appl. No. 10/791,569

Reply to Office Action mailed April 19, 2007

weight and Cu as a remaining content is deposited on a backing layer made of one of Ti, W, Ta, Mo, indium tin oxide, titanium nitride, oxidation silicon and silicon nitride to form a wiring pattern, an electrode or a contact.

Claim 39. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of a binary alloy including mainly Cu and Mo in an amount of 0.1 to 3.0 % by weight is deposited on a backing layer made of one of Ti, W, Ta, Mo, indium tin oxide, titanium nitride, oxidation silicon and silicon nitride to form a wiring pattern, an electrode or a contact.

Claim 40. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weigh, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is deposited on a backing layer made of one of Ti, W, Ta, Mo, indium

Appl. No. 10/791,569
Reply to Office Action mailed April 19, 2007

tin oxide, titanium nitride, oxidation silicon and silicon nitride to form a wiring pattern, an electrode or a contact.

Claim 41. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of an alloy including mainly Cu and having a composition of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is directly deposited on a substrate made of glass or resin such as plastic to form a wiring pattern, an electrode or a contact.

Claim 42. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic material consisting of a binary alloy including mainly Cu and Mo in an amount of 0.1 to 3.0 % by weight is directly deposited on a substrate made of glass or resin such as plastic to form a wiring pattern, an electrode or a contact.

Claim 43. (withdrawn) A working method of a metallic material, in which a metallic film formed by said metallic

Appl. No. 10/791,569

Reply to Office Action mailed April 19, 2007

material consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content is directly deposited on a substrate made of glass or resin such as plastic to form a wiring pattern, an electrode or a contact.

Claim 44. (withdrawn) An electronic optical component having reflective film, an electrode or a wiring pattern which are formed by a metallic film consisting of an alloy including mainly Cu and having a content of Mo in an amount of 0.1 to 3.0 % by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ag, Ti, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.

Claim 45. (currently amended) An electronic optical component having reflective film, an electrode or a wiring pattern which are formed by a metallic film formed by a sputtering process using a sputtering target material consisting essentially of a

Appl. No. 10/791,569

Reply to Office Action mailed April 19, 2007

binary alloy including ~~mainly~~ Cu and Mo in an amount of 0.1 to 3.0 % by weight.

Claim 46. (withdrawn) An electronic optical component having reflective film, an electrode or a wiring pattern which are formed by a metallic film consisting of an alloy including mainly Cu and having a composition of one or a plurality of elements selected from the group consisting of Cr, Ta, W and Ti in a total amount of 0.1 to 3.0% by weight, one or a plurality of elements selected from the group consisting of Al, Au, Ni, Co and Si in a total amount of 0.1 to 3.0% by weight and Cu as a remaining content.